

HATCH R&R

OBJECTIVE:

Remove and replace a defective Hatch.

LOCATION:

Installed: U.S. Common Hatch

Stowed: √Maintenance Database

DURATION:

110 minutes

TOOLS REQUIRED:

IVA Tool Box Left Lid:

Plastic Feeler Gauges

Magnifying Glass (7X)

Kit A:

11/16" Combination Wrench

11/16" Crowfoot, 3/8" Drive

Kit D:

5/16" Hex Head, 3/8" Drive

Kit E:

Ratchet 3/8" Drive

Driver Handle 3/8" Drive

(30-200 inlb) Trq Wrench, 3/8" Drive

Kit F:

1/8" Hex Head Driver, 3/8" Drive

REFERENCED PROCEDURE(S):

None

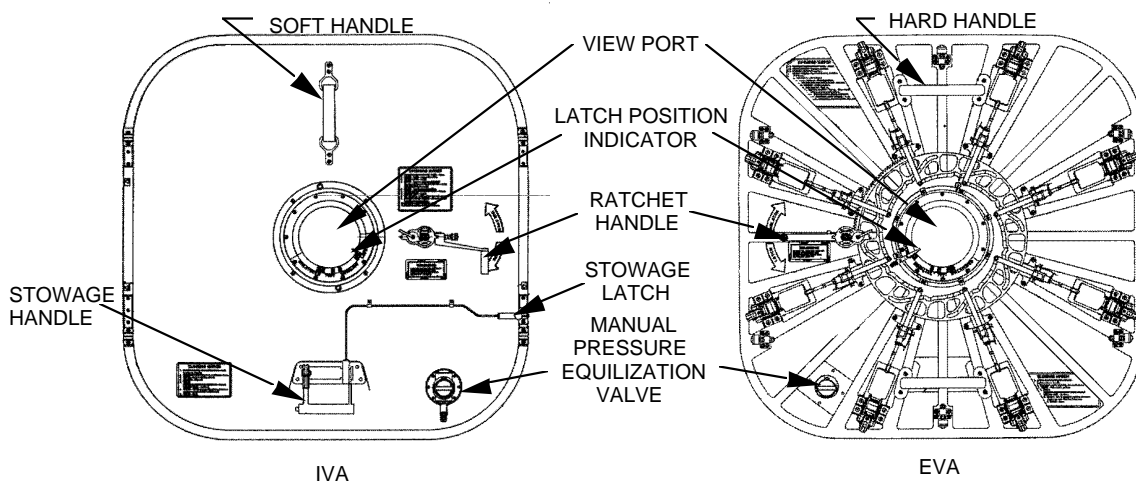


Figure 1.- Hatch Dome/Rib.

REMOVE

1. Translate to rib side of Hatch.
2. Close Hatch, turn crank handle until pointer is at EQUALIZE position.
3. Loosen hatch latch set screws (eight) one full turn (Driver Handle 3/8" Drive, 1/8" Hex Head).
4. Open Hatch.
5. Translate to dome side of Hatch.
6. Close and latch Hatch.

NOTE

Six quick release pins are released from each radial track to allow for rotation. Four quick release pins are released from each axial track to allow for rotation.

7. Release disconnect grounding cables connecting tracks to bulkhead by using quick disconnect feature.
8. Release tethered quick release pins from Hatch track, rotate track out of way.
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CAUTION

Two crewmembers are required to translate Hatch from stowed location.

9. Unlatch Hatch.
10. Remove Hatch from bulkhead.

REPLACE

11. Orient replacement Hatch so that up arrow on soft handle assembly, located on dome side of Hatch, points in same direction the Hatch will travel up the tracks. Three arrow decals, also on dome side of Hatch, near rollers match three arrow decals on bulkhead.
12. Position and align replacement Hatch on bulkhead using alignment guides as visual cues to center Hatch on bulkhead.
13. Latch Hatch.
14. Release hatch tracks from temporary restrained position.
15. Rotate tracks onto hatch rollers, into installed position.

16. Install quick release pins into track.
17. Reconnect grounding cables on bulkhead to track.
18. For out-of-tolerance guides, loosen jamnuts A and D completely (11/16" Combination Wrench, Ratchet 3/8" Drive, 11/16" Crowfoot).
19. Turn jamnuts B and C manually to set alignment guide to bulkhead gap at 0.020 to 0.025 inches (Feeler Gauge).
20. Hold jamnut C stationary with Combination Wrench while torquing D against C to 260 ± 20 inlb (11/16" Combination Wrench, 11/16" Crowfoot, (30 - 200 inlb) Trq Wrench).
21. Hold jamnut B stationary with Combination Wrench while torquing jamnut A against B to 260 ± 20 inlb (11/16" Combination Wrench, 11/16" Crowfoot, (30 - 200 inlb) Trq Wrench).
22. Check alignment guide-to-bulkhead gap.
If gap is within tolerance, continue with procedure.
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If gap is not within tolerance, repeat alignment guide adjustment.
23. Loosen set screws (two) on roller assembly (Ratchet 3/8" Drive, 5/16" Hex Head).
24. Push track away from roller to take up slack while sliding head of roller to achieve .010 to .020 gap between roller and track (Feeler Gauges).
25. Snug set screws (two) on roller assembly, torque set screws (two) on roller assembly, torque to 71 ± 5 inlb (5/16" Hex Head, (30-200 inlb) Trq Wrench).
26. Open and close Hatch several times to verify proper travel in tracks.
If Hatch opens without binding, continue with procedure.
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If Hatch binds when opening, repeat hatch roller assembly adjustment.
27. Mark, tape approximate location of latches on dome side of Hatch.
28. Close and latch Hatch.

NOTE

Gap between hatch plate and hatch seal metal substrate should be .015 to .025 inches at each location. Gap at the corners of Hatch should be .030 to .035 inches.

29. Measure gap between hatch plate and hatch seal metal substrate at latch locations (eight) (0.015 to 0.025) and hatch corners (four) (0.030 to 0.035) (Feeler Gauge).

If locations are out of tolerance, continue with procedure.

If locations are within tolerance, go to step TBD of this procedure.

30. Open Hatch.
31. Translate to Rib side of Hatch.
32. Close Hatch.

NOTE

Hatch needs to be in EQUALIZE position while adjusting latches. If not, damage could occur to mechanism. All measurements need to be taken with hatch in LATCHED position.

33. Turn crank until pointer reaches EQUALIZE position to partially engage latches.
34. Rotate vertical adjustment screw one quarter turn CW to close gap, CCW to widen gap on each latch that is out of tolerance (Driver Handle 1/4" Drive, 1/8" Hex Head).
35. Turn crank until pointer reaches LATCHED position.
36. Measure gap between hatch plate and hatch seal metal substrate at latch locations (eight) and hatch corners (four) (Feeler Gauge).
If locations are out of tolerance,
Repeat steps 33 --- 35 until all latch locations (eight) have gap between 0.015 to 0.025 inches and all hatch corners (four) have gap between 0.030 to 0.035 inches.
If locations are within tolerance, continue procedure.
37. Open Hatch.
38. Visually inspect Hatch Seals with 7X magnifying glass for nicks, burrs, cuts, gouges, etc., that would impair proper seal.
39. Verify seal integrity by performing HATCH SEAL LEAK TEST, all (SODF: TBD), then:

POST MAINTENANCE

40. Stow Hatch, tools, and equipment.
41. Update Maintenance Database.